

What is claimed is

1. A flexible graphite sheet having two major surfaces and having improved molding characteristics at one of its major surfaces, comprising a sheet of compressed particles of resin-impregnated exfoliated graphite having a non-uniform resin concentration across one of the dimensions of the sheet.
2. The sheet of claim 1 wherein the resin concentration through the thickness of the sheet is non-uniform.
3. The sheet of claim 2 wherein the resin concentration through the thickness of the sheet varies in a linear fashion.
4. The sheet of claim 2 wherein the resin concentration through the thickness of the sheet varies in a non-linear fashion.
5. The sheet of claim 2 wherein molded structures are formed in the surface having improved molding characteristics.
6. A laminate having two major surfaces comprising at least one flexible graphite sheet having improved molding characteristics at one of its major surfaces and which comprises a sheet of compressed particles of resin-

impregnated exfoliated graphite having a non-uniform resin concentration across one of the dimensions of the sheet, wherein the surface having improved molding characteristics is oriented so as to form one of the external surfaces of the laminate.

7. The laminate of claim 6 wherein the resin concentration through the thickness of the at least one flexible graphite sheet is non-uniform.

8. The laminate of claim 7 wherein the resin concentration through the thickness of the at least one flexible graphite sheet varies in a linear fashion.

9. The laminate of claim 7 wherein the resin concentration through the thickness of the at least one flexible graphite sheet varies in a non-linear fashion.

10. The laminate of claim 6 wherein molded structures are formed in the surface having improved molding characteristics.

11. The laminate of claim 6 which comprises a plurality of flexible graphite sheets, each comprising a sheet of compressed particles of resin-impregnated exfoliated graphite having a non-uniform resin concentration across one of the dimensions of the sheet, wherein the laminate is formed such that the

external major surfaces of the laminate comprise flexible graphite sheet surfaces having improved molding characteristics.

12. The laminate of claim 11 wherein molded structures are formed in each of the major surfaces of the laminate.

13. A process for producing a flexible graphite sheet having two major surfaces and having improved molding characteristics at one of its major surfaces, comprising

(a) compressing particles of exfoliated graphite to form a sheet of a first density;

(b) impregnating a resin composition into the sheet so as to provide a non-uniform resin concentration across one of the dimensions of the sheet to form a resin-impregnated sheet; and

(c) compressing the resin-impregnated sheet to a second density.

14. The process of claim 13 wherein resin impregnation is effected by passing the sheet through a resin-impregnation zone at a certain speed.

15. The process of claim 14 further wherein resin impregnation is effected by applying the resin to one of the major surfaces of the sheet and drawing a

vacuum from the other major surface of the sheet to draw resin into the sheet.

16. The process of claim 15 wherein providing a non-uniform resin concentration across one of the dimensions of the sheet is achieved by varying a resin-impregnation variable selected from the group consisting of resin concentration, first density, speed at which the sheet passes through the resin-impregnation zone, impregnation vacuum level, and combinations thereof.

17. A process for producing a laminate having two major surfaces and having improved molding characteristics at one of its major surfaces, comprising

- (a) compressing particles of exfoliated graphite to form a sheet of a first density;

- (b) impregnating a resin composition into the sheet so as to provide a non-uniform resin concentration across one of the dimensions of the sheet to form a resin-impregnated sheet;

- (c) compressing the resin-impregnated sheet to a second density to form a final sheet form; and

- (d) forming a laminate comprising at least one flexible graphite sheet comprising the final sheet form.

18. The process of claim 17 wherein resin impregnation is effected by passing the sheet through a resin-impregnation zone at a certain speed.
19. The process of claim 18 further wherein resin impregnation is effected by applying the resin to one of the major surfaces of the sheet and drawing a vacuum from the other major surface of the sheet to draw resin into the sheet.
20. The process of claim 19 wherein providing a non-uniform resin concentration across one of the dimensions of the sheet is achieved by varying a resin-impregnation variable selected from the group consisting of resin concentration, first density, speed at which the sheet passes through the resin-impregnation zone, impregnation vacuum level, and combinations thereof.